

power outages. The outages contributed to problems with access to medical care, access to food and water, and use of portable generators with subsequent risk for fire, electrocution, and exposure to carbon monoxide. Anecdotal reports from survey teams suggested that lower-income persons were more likely to report problems with access to food, water, and medical care and that questions about the socioeconomic status of survey respondents should be considered in future assessments.

Community needs assessments similar to this one have been employed after natural disasters, including hurricanes (4,5), floods (6), and ice storms (7). These assessments, which include estimates of the numbers of households with specific needs, can be used to identify unanticipated needs or effects (e.g., limited access to medical care) and provide valuable information to guide disaster response and recovery efforts.

This post-disaster assessment was the first of its kind in NC. Emergency response and public health officials were not always aware of the assessment and did not always have adequate time or information to use the data to shape recovery efforts. Responders should be provided with information about these assessments before a disaster so they can gauge the strengths, limitations, and potential uses of the data and recommendations provided.

NCDPH used experience gained during Hurricane Isabel to 1) develop the ability to conduct rapid community health and needs assessments by using in-state resources and 2) enhance logistic operations and methods for data collection. On August 17, 2004, NCDPH reported the results of its latest community health and needs assessment <72 hours after Hurricane Charley crossed through the state.

The Hurricane Charley assessment suggested that the storm did not have widespread public health impact in NC. However, NCDPH demonstrated new assessment capabilities with the use of geographic information systems technology and handheld computers. The state team used mapping software to generate and map seven random points in each of the census block groups, and interview teams navigated to the random points in their assigned census blocks by using handheld computers equipped with global positioning system plotters. Interview data were collected on the handheld computers from the household closest to the random point in the census block. These modifications simplified the mapping process and introduced a new method for randomization in the selection of households within the census block group. NC has used its experience with Hurricanes Isabel and Charley to incorporate community health and needs assessments into its public health response to all natural disasters and other public health emergencies.

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Transfusion-Associated Transmission of West Nile Virus — Arizona, 2004

Blood transfusion-associated transmission (TAT) of West Nile virus (WNV) in the United States was first identified in 2002 (1). In 2003, blood collection agencies (BCAs) responded by screening donations for WNV by using nucleic acid-amplification tests (NATs) (2). The majority of BCAs use a two-tiered NAT-screening algorithm. On the basis of the test manufacturer's format, NATs are conducted on minipools of samples from either six or 16 blood donations. If a minipool is nonreactive, its constituent donations are released for transfusion. If a minipool is reactive, the constituent donations undergo individual testing. If an individual donation is reactive, associated blood components are impounded, and the donor is notified for further testing to confirm the infection. In 2003, blood-donation screening for WNV resulted in the impounding of approximately 800 blood components potentially containing WNV. However, six reported cases of transfusion-associated WNV disease were associated with units of blood components with viral concentrations too small to be detected by minipool NAT (3). In 2004, to improve the sensitivity of WNV screening, BCAs implemented systems to trigger a switch from minipool NAT to individual NAT in areas with epidemic WNV transmission. This report describes the first transfusion-associated WNV infection identified in 2004; the implicated blood donation was collected before the switch to individual testing. Clinicians should remain aware of the risk for WNV transmission through blood-product transfusion and alert state health officials to hospitalized patients with

WNV disease symptoms who have had a transfusion during the preceding 28 days.

Case Report

In July 2004, a man aged 43 years was admitted to a tertiary-care hospital in Maricopa County, Arizona, for an above-knee amputation necessitated by complications of diabetes mellitus. The patient was anemic and received two units of packed red blood cells (RBCs). His surgery occurred 3 days after admission, and he was discharged in stable condition 8 days later.

Two days after discharge, after a day of malaise, anorexia, and diarrhea, the man was found unresponsive and was admitted to a local hospital. On admission, his wound site was clean, but he was hypoglycemic and had an erythematous maculopapular rash on his upper extremities. He remained poorly responsive despite treatment for hypoglycemia, and the next day he was transferred to the tertiary-care hospital that had performed his amputation. On admission, he was febrile, had altered mental status, oscillopsia, and cogwheel rigidity. Magnetic resonance imaging of the brain was consistent with WNV encephalitis (4). The patient's cerebrospinal fluid was positive for WNV-specific IgM antibody by enzyme-linked immunosorbent assay at the Arizona Bureau of State Laboratory Services and positive for WNV RNA by reverse transcriptase-polymerase chain reaction at CDC.

The patient was discharged to a nursing home in mid-August and died 3 days later. Primary cause of death was cardiorespiratory failure secondary to severe progressive neurologic dysfunction. An autopsy was not performed.

The RBC units the patient received were produced from two donations collected in June in Maricopa County. Both donations were nonreactive by minipool NAT screening. Two fresh frozen plasma units associated with these donations were recalled and tested individually for WNV. One plasma unit was nonreactive by NAT, and a follow-up sample from the donor was negative for WNV IgM. The other plasma unit was reactive by NAT, but negative for WNV-specific IgM antibody. To determine the efficacy of minipool testing for this unit, a minipool including this plasma unit was reconstructed and was reactive in two of 10 replicated minipool NAT tests. Individual NAT was reactive in nine of 10 replicated tests. Follow-up donor serum was positive for WNV IgM.

Because the transfusion recipient had a confirmed WNV infection, the implicated donation was NAT reactive, and the associated donor seroconverted; this is considered a probable case of WNV TAT (3). As of July 27, only one WNV-infected horse and no human cases of WNV disease had been reported in the recipient's county of residence. However, this case does

not meet the criteria for a confirmed case of WNV TAT because the patient traveled to an area experiencing epidemic WNV transmission for his amputation. Exposure of the patient to infectious mosquitoes while in this area cannot be ruled out.

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Editorial Note: As of September 7, a total of 98 blood components potentially containing WNV had been removed from the U.S. blood supply during 2004. The risk for WNV transmission via blood products has been reduced but not eliminated. Minipool NAT is an effective screening method for WNV, but donations containing low levels of virus can escape detection by this test. Although individual NAT is more sensitive than minipool NAT, the United States has limited laboratory capacity and test reagent availability for NAT. For this reason, BCAs developed systems to trigger a switch from minipool to individual NAT in areas of epidemic WNV transmission (5). Nonetheless, in the case described in this report, results of testing the implicated donation revealed that even individual NAT might not have detected WNV (i.e., in one of 10 tests).

BCAs in the United States had not planned to implement their trigger systems until June 2004. However, the WNV epidemic in Maricopa County began in May, earlier than widespread WNV was expected. Evidence of year-round WNV activity has been documented in east Texas and Louisiana (6). This year's experience demonstrates that BCAs might need to prepare for onset of human WNV transmission as early as May in areas of the country similar to Arizona. As a result of the case described in this report, the BCA involved plans to implement its trigger system year-round in all its collection areas.

Clinicians should consider WNV disease in any patient with consistent symptoms who has received a blood transfusion during the 28 days preceding illness onset. Suspected cases should be reported to state health authorities, who are encouraged to notify CDC. The vigilance of clinicians and public health officials is essential to identify breakthrough TAT cases. Identification of such cases allows recovery of stored components that might contain WNV, which further increases the safety of the blood supply.

The benefits of blood transfusion far outweigh the risk for transfusion-associated WNV disease. However, clinicians should use blood products judiciously to reduce the risk for adverse events and should be alert for cases of transfusion-associated WNV disease. BCAs will continue to evaluate WNV-screening strategies in consultation with CDC and the Food and Drug Administration to ensure that blood products are as safe as possible.

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Participation in High School Physical Education — United States, 1991–2003

Physical education (PE) can increase student participation in moderate to vigorous physical activity (1) and help high school students gain the knowledge, attitudes, and skills they need to engage in lifelong physical activity (2). Two national health objectives for 2010 are to 1) increase to $\geq 50\%$ the proportion of adolescents who participate in daily school PE (objective no. 22-9) and 2) increase to $\geq 50\%$ the proportion of adolescents who spend at least half of school PE class time being physically active (objective no. 22-10) (3). To examine changes in PE class participation among high school students in the United States during 1991–2003, CDC analyzed data from the national Youth Risk Behavior Survey (YRBS). This report summarizes the results of that analysis, which indicated that 1) the proportion of students attending PE class daily declined significantly during 1991–1995 and did not change

during 1995–2003 and 2) the proportion of students exercising or playing sports for >20 minutes during PE class 3–5 days per week did not change significantly during 1991–2003. If the national health objectives are to be achieved, coordinated efforts involving schools, communities, and policy makers are needed to provide daily, quality PE for all youth.

The national YRBS, a component of CDC's Youth Risk Behavior Surveillance System, used independent three-stage cluster samples for the 1991–2003 surveys to obtain cross-sectional data representative of public- and private-school students in grades 9–12 in the 50 states and the District of Columbia. During 1991–2003, sample sizes ranged from 10,904 to 16,296, school response rates ranged from 70% to 81%, student response rates ranged from 83% to 90%, and overall response rates ranged from 60% to 70%. For each cross-sectional survey, students completed an anonymous, self-administered questionnaire that included identically worded questions about participation in PE class.

For this analysis, temporal changes were assessed for three behaviors: 1) being enrolled in a PE class (i.e., attending a PE class on ≥ 1 day in an average week when in school), 2) attending PE class daily (i.e., 5 days in an average week when in school), and 3) being physically active during PE class, as defined in the national health objective 22-10 baseline measure (i.e., among all students, exercising or playing sports for >20 minutes during an average PE class 3–5 days per week). Data are presented only for non-Hispanic black, non-Hispanic white, and Hispanic students because the numbers of students from other racial/ethnic populations were too small for meaningful analysis.

Data were weighted to provide national estimates, and SUDAAN was used for all data analyses. Temporal changes were analyzed by using logistic regression analyses that assessed linear and quadratic time effects simultaneously and controlled for sex, race/ethnicity, and grade. Quadratic trends indicated significant but nonlinear trends in the data over time. When a significant quadratic trend accompanied a significant linear trend, the data demonstrated a nonlinear variation (e.g., leveling off or change in direction) in addition to an overall increase or decrease over time. All results were statistically significant ($p < 0.05$) unless otherwise noted.

During 1991–2003, the prevalence of students being enrolled in PE class overall and among female, male, white, Hispanic, 9th-, 10th-, 11th-, or 12th-grade students did not change significantly (Table). Among black students, the prevalence of being enrolled in PE class declined significantly during 1991–1997 and did not change significantly during 1997–2003.